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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,408	06/12/2000	FRITZ CLASS	10917/11	7191
26646	7590	04/20/2005	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			ARMSTRONG, ANGELA A	
			ART UNIT	PAPER NUMBER
			2654	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/581,408

Applicant(s)

CLASS ET AL

Examiner

Angela A Armstrong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 and 18 is/are allowed.
- 6) ☒ Claim(s) 11, 12, 14-17 and 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 11, 14-17, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kita et al ("Incorporating LR Parsing Into SPHINX", International Conference on Acoustics, Speech and Signal Processing, April 1991).
3. Regarding claims 11 and 21-22, Kita et al with the teaching to integrate LR natural language parser with the SPHINX speech recognition system to provide more global grammatical constraints combining context-free grammar with bigram grammar reads on the invention for recognizing speech from a word (or sound) sequence as follows:

Kita et al reads on the feature of applying a first recognition procedure to a first segment of the word (or sound) sequence, the first segment including a plurality of first words (or sounds) with the SPHINX processing (abstract, 10<sup>th</sup> line page 269). Kita et al reads on the feature of applying a second recognition procedure to a second segment of the word (or sound) sequence, the second segment including a plurality of second words (or sounds) with the LR parsing (last paragraph page 269 – see Abstract, 10<sup>th</sup> line). Kita et al do not specifically teach the combined words are the last two words of the plurality of first words, however Kita et al teaches to extend the path, a set of word transitions is generated by the word network (bigram or word-pair) and the checked by the LR parser, which reads on combining two words or sounds of the plurality of first words (or sounds) into a pseudoword (or sound) upon a change from the first recognition procedure to the second recognition procedure and processing the pseudoword (or sound) using a

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digram detection method (from the bigram grammar of the third line from end of last paragraph page 269 and last paragraph of page 270), and it would have been obvious to combine the last two words of the context-free grammar to generate a pseudoword (or sound) for processing to the bigram grammar, so as to ensure accurate processing for recognition of the utterance to achieve the improved sentence and word accuracy suggested by Kita et al.

Regarding claim 14, the claim is set forth with the same limits as claim 11. Kita et al reads on the feature where at least one of the first and second segments is predefined in terms of at least one of a respective segment length and segment position (inherent in the operation of the LR processor, last two paragraphs of section 2.1, page 270).

Regarding claim 15, the claim is set forth with the same limits as claim 14. Kita et al reads on the feature where at least one of the first and second segments is permanently allocated to one of the first and the second recognition procedure (with the processing constantly being initiated using the SPHINX-LR II method (last paragraph page 271)).

Regarding claims 16 and 17, the claims are set forth with the same limits as claims 14 and 11, respectively. Kita et al reads on the feature where the first segment has a predefined length and is positioned at a beginning of the word (or sound) sequence (with the teaching that the SPHINX uses a word-pair from the beginning, second paragraph, section 2.1, page 270).

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kita et al in view of Meteer et al ("Statistical Language Modeling Combining N-Grām and Context-Free Grammars," IEEE International Conference on Acoustics, Speech and Signal Processing, April 1993).

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5. Regarding claim 12, Kita et al does not teach the specifics of the procedures of the first and second recognition procedures. Meteer reads on the feature where the first recognition procedure includes an integrated unique syntax procedure and the second recognition procedure includes a statistical word sequence procedure (page II-40, right column, lines 21-23).

It would have been obvious to one of ordinary skill at the time of the invention to modify the system of Kita to implement the integrated syntax procedure and statistical word sequence procedures of Meteer, so as to achieve accurate processing for recognition of the utterance to achieve the improved sentence and word accuracy suggested by Kita et al.

6. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kita et al in view of Nakadai et al (US Patent No. 5,732,394).

7. Regarding claim 19, the claim is set forth with the same limits as claim 11. Kita et al changes methods based on failure, so does not change on recognition. Nakadai et al, with the invention for word speech recognition by pattern matching, reads on the feature were a change from the 2nd recognition procedure to the 1st recognition procedure is performed based on a respective word (or sound) detection or phrase detection (S43 in figure 8 - see column 14 lines 1-5). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Nakadai et al to the device/method of Kita et al to process each segment using the methods that are likely to result in recognition.

Regarding claim 20, the claim is set forth with the same limits as claim 19. Kita et al reads on the feature where the second recognition procedure is used as standard with the teaching

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that if at some point during recognition the system fails, then the system will use the bigram paths (from last paragraph of page 271 to first paragraph, page 272).

***Allowable Subject Matter***

8. Claims 13 and 18 are allowed.

***Response to Arguments***

9. Applicant's arguments with respect to claims 11-12, 14-17, and 19-22 have been considered but are moot in view of the new ground(s) of rejection.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A Armstrong whose telephone number is 571-272-7598. The examiner can normally be reached on Monday-Thursday 11:30-8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angela A Armstrong  
Examiner  
Art Unit 2654

AAA  
April 15, 2005

*Angela A. Armstrong*